

## On the Hidden Subgroup and Related Problems

Gábor Ivanyos

*HUN-REN Institute for Computer Science and Control*

Perhaps the most striking theoretical achievements of quantum computing are Shor's algorithms for factoring integers and computing discrete logarithms. Both can be formulated as special cases of the Hidden Subgroup Problem (HSP). In this talk, we provide an overview of the most significant results related to the HSP and its generalizations. We highlight key algorithmic and cryptographic applications, outline some of the most important open problems, and discuss the limitations of current techniques and approaches.